

# Information

## Assurance

The vulnerability of information systems and networks is increasing. The ability of individuals to penetrate computer networks and deny, damage, or destroy data has been demonstrated on many occasions. As we become more dependent on information technology, there is a growing potential for disaster.



# Information

## Assurance

Scope, Definition and Evolution

of IA

Threats

Malicious Logic

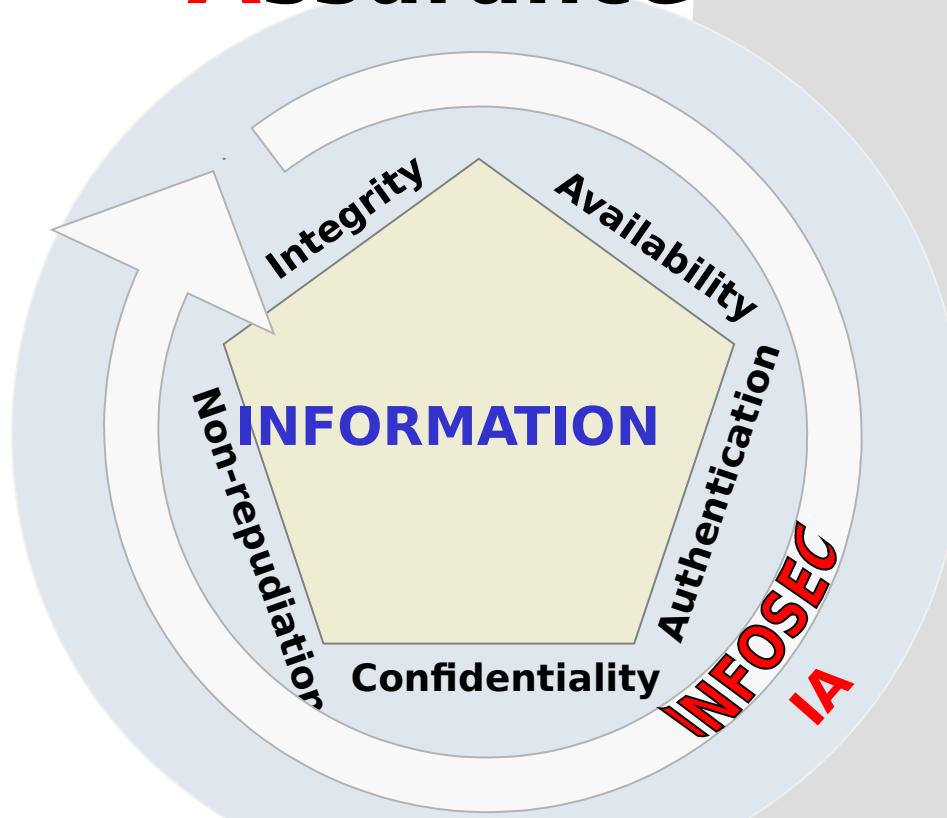
Classified and Unclassified  
Information

User Roles and Responsibilities

Reporting Procedures



# Scope of **Information Assurance**



***Information Assurance encompasses the INFOSEC role.***

# What Does **IA** Enable?

- **Assures your system will be available when needed**
- **Assures integrity of data**
- **Provides confidentiality of data in storage and transit**
- **Verifies receipt of electronic transactions**
- **Authenticates participants in electronic commerce**

# Information Systems Security

**(INFOSEC)**

The protection of **Information Systems** security against unauthorized access to or modification of information, whether in storage, processing or transit, and against the denial of service to authorized users or the provision of service to unauthorized users, including those measures necessary to detect, document, and counter such threats.

Reference- NSTISSI 4009

# Information Assurance (IA)

Information operations that protect and defend **information** and **information systems** by ensuring their availability, integrity, authentication, confidentiality, and nonrepudiation. This includes providing for restoration of information systems by incorporating protection, detection, and reaction capabilities.

Reference - NSTISSI 4009

# IA: Relevance to You

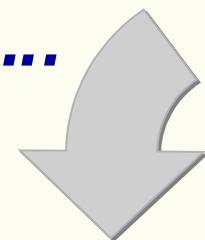
- Operational processes at your command
  - Defense Message System.....(DMS)
  - Electronic Key Management System.....(EKMS)
  - Secret Internet Protocol Router NETwork.(SIPRNET)
  - CASUalty REPorting .....(CASREPS)
  - OPerations REPorting.....(OPREPS)

- **Administrative processes at your command**
  - Intranet Operations
  - E-Mail Delivery
  - Plan of the Week / Day
  - Record Message Delivery

***Your ability to complete mission requirements is tied directly to IA.***

# Evolution of IA

*In the beginning, there was INFOSEC....*

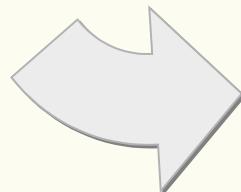


## 1960s

- Simple security challenges
- Limited computer usage

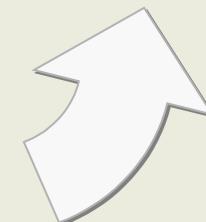
## 1970s & 1980s

- Use in homes and battlefields
- Embedded in weapons systems



## 2000 & Beyond

- Network-centric warfare
- Enabling technology for EC
- Knowledge management
- Communications, not computing



## 1990s

- Computing as utility
- Dependent on commercial information infrastructure

*As the need for security increased, IA was born.*

**Threa  
t:**

**Relevance to  
YOU**

## **BE AWARE of the potential threat when you**

- Make hardware and software changes
- Use the Internet
  - Move information between classified and unclassified systems (Ex.: SABI (Secret And Below Interoperability))

***Threats are very real.***

# External Threats

- **Enemies of the United States can gain access to**
  - Major exercise planning documents
  - Personnel and ship movements
  - Detailed plans and drawings of ships and aircraft, operations buildings, weapon systems, communication systems
- **Hackers can enter command information systems to**
  - Disrupt information flow
  - Destroy critical software programs
  - Create local account to gain additional information
  - Disable or destroy the information system

# Internal Threats

- **Unauthorized personnel can gain access to**
  - Personnel movements (ex. TAD, PCS)
  - Ship movements (ex. Ports of call, arrival and departure dates)
  - System Administration areas
  - Classified and sensitive information
- **Unauthorized personnel hack the system to**
  - Gain access to information they are not cleared or have the authority to see
  - Alter their personal records (ex. document completion of a PQS they did not complete)
  - Rewrite their evaluation or fitness report without authorization
  - Alter system parameters for fun

# Malicious Logic

Hardware, software, or firmware  
**intentionally** included in an  
information system for an  
**unauthorized** purpose.

Reference NSTISSI 4009

# Types of Malicious Logic

- **Trojan horse**
  - Programs that perform functions not intended by the user
  - Example: Program that simulates logon, but actually records user ID and password for later use
- **Bombs**
  - Trojan horse programs that are triggered by time and date or by a specific condition
  - Example: Logic bomb that executes as a particular input sequence is entered or a time bomb that executes on a particular date
- **Worms**
  - Independent programs that spread copies of themselves to computers throughout a network
  - Example: Program that overloads a network by rapid duplication

# Types of Malicious Logic

- **Viruses**

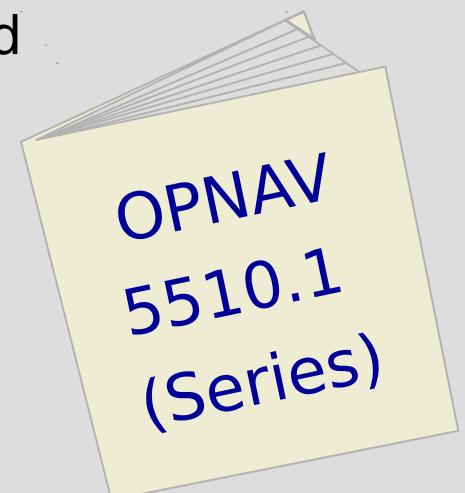
- Programs that “infect” other programs in order to perform malicious actions
- Example: Virus program that appears as an offer for free software, but when executed, erases files stored locally on the computer
- Backing-up system and application files will help protect you from viruses

***It is a federal offense for a DOD employee to deliberately introduce malicious logic to any information system***

# Classified Information

- **Handling Procedures**

- Use the same caution for electronic and printed materials
- Store disks and removable media in appropriate storage containers
- Dispose of printed material as prescribed by security regulations
- Secure the terminal and remove all printed information from the work area



# Unclassified but Sensitive Information

- **Handling Procedure**

- Ensure authorized personnel have access to the information
- Dispose of waste paper and other materials containing this information into a shredder or burn bag
- Place proper account controls on all system accounts

- **Types of Unclassified but Sensitive Information**



- Personnel Records
- Medical Records
- Privacy Act Information

# User Roles and Responsibilities

- Never put classified information on an unclassified system
- Secure the terminal (logging off) before you leave the area
- Lock up media containing sensitive information
- Stay up-to-date with the latest technological changes

***Be Responsible!***

# User Roles and Responsibilities

## Passwords

- Use a mixture of letters and figures in your password
- Do not use obvious names for your password
- Memorize your password
- Do not share passwords with co-workers
- Change your password on a regular basis

# Problems, Incidents & Perceived Incidents

## Problem

Monitor goes out;  
printer is not  
working

## Incident

"You have been  
zapped!"

## Perceived Incident

Previously unseen  
error might indicate  
unauthorized  
access

***Report all issues.***

# Reporting Procedures

- **Report the problem to your Information System Security Officer (ISSO) for the system you are operating**
- **Include the following information**
  - Location of the terminal you were using
  - Operation you were performing when the problem occurred
  - Nature of the problem
  - Date and Time it occurred
  - Any error messages or report that were displayed
- **For perceived incidents, indicate why you believe an incident has occurred**

# The Bottom Line

- When in doubt, **REPORT IT!**
- Err on the side of caution!

***Your life and the lives of your  
shipmates are depending on  
you!***

# Information Assurance

**If you have any questions concerning information in this brief, direct them to your Information Systems Security Officer or Manager.**

